

Solid Malignancies During the First Year of Life:

Summary of a 20-Year Review at Red Cross War Memorial Children's Hospital, Cape Town, South Africa

Original research: Jauquier N, English N, Davidson A, Cox SG. Solid malignancies during the first year of life: A 20-year review at Red Cross War Memorial Children's Hospital. *S Afr Med J.* 2022;112(6):418-425. PMID: 36217871 <https://pubmed.ncbi.nlm.nih.gov/36217871/>

Objective

To evaluate solid non-CNS malignancies in children diagnosed before their first birthday at RCWMCH, characterising tumour distribution, treatment modalities, surgical complications, and clinical outcomes within a middle-income country healthcare setting.

Study Method

Design: Retrospective case series
Period: January 1997 - December 2016
Setting: Red Cross War Memorial Children's Hospital, Cape Town
Cohort: 122 patients aged <1 year at diagnosis (from 243 initial cases)
Classification: ICCC-3 (renal, neuroblastic, soft-tissue, hepatic, germ cell)
Analysis: Kaplan-Meier survival analysis

Outcomes

Primary outcome: Five-year overall survival by tumour type
Secondary outcomes: Tumour distribution, treatment modalities, surgical complication rates, and overall cohort mortality
Management:

- Surgery: 97.5% of cases
- Chemotherapy: 74.6%
- Radiotherapy: 8.2%

Cohort: Median age 5.5 months | Male : Female ratio 1.03:1

Study Design

Descriptive analysis – 20-year retrospective case series evaluating solid non-CNS malignancies in infants (<1 year) at a tertiary paediatric oncology centre in a middle-income country context.

Results

Tumour distribution:

- Renal tumours: 38 (31.2%)
- Neuroblastomas: 30 (24.6%)
- Soft-tissue sarcomas: 25 (20.5%)
- Germ cell/gonadal tumours: 17 (13.9%)
- Hepatoblastomas: 12 (9.8%)

Five-year overall survival:

- Nephroblastoma: 79.0%
- Neuroblastic tumours: 78.5%
- Hepatoblastoma: 81.5%
- Malignant germ cell tumours: 79.5%
- Rhabdomyosarcoma: 62.5%
- Non-rhabdomyosarcoma soft-tissue sarcomas: 54.2%

Overall cohort: 5-year survival 74.6% | Mortality 21.5% | Surgical complications 10.9%

Clinical Takeaway

Renal tumours predominated over neuroblastomas in this South African series—a finding potentially region-specific—while treatment outcomes aligned with international benchmarks. The 10.9% surgical complication rate and 74.6% five-year survival correspond with published literature, validating protocol-driven multidisciplinary care delivery.

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References: 1. Brits E et al. Paediatric nephroblastoma at a South African tertiary hospital. *S Afr Med J.* 2024;114(12):e2223 2. Van Heerden J & Kruger M. Scope of childhood cancer in South Africa. *Health SA Gesondheid.* 2021;26:1672 3. CHOC/Discovery Oncology. Statistics on most prevalent cancers in children.

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